

# The LOGBOOK of CSP<sup>2</sup>

The CENTER for SCIENCE in PUBLIC PARTICIPATION

*"Technical Support for Grassroots Public Interest Groups"*

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## COAL MINING AND SALMON

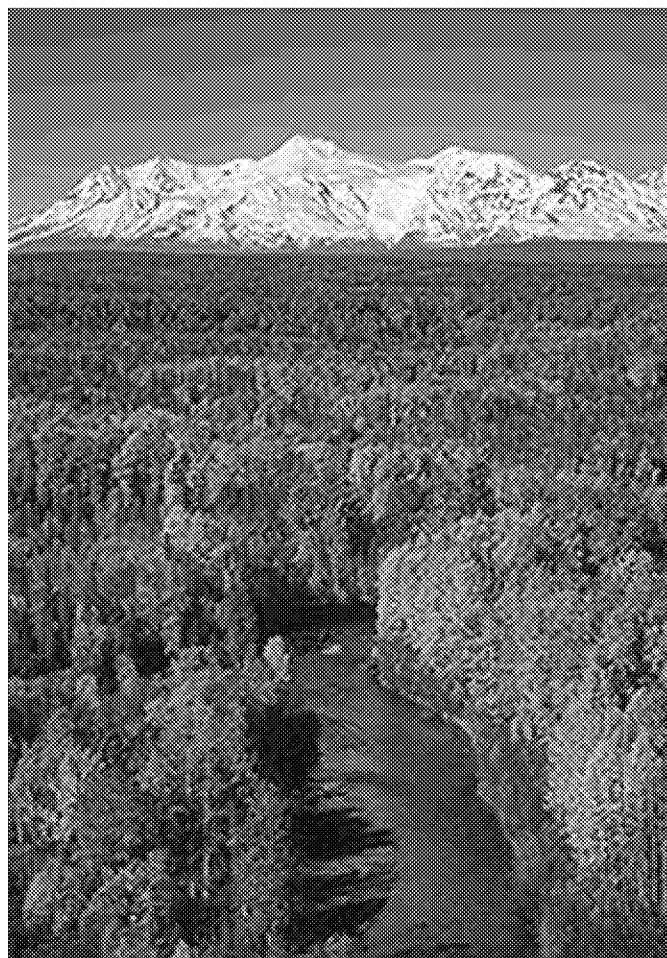
### Cook Inlet Coal Mine

The Chuit River boasts all five species of salmon, and supports commercial, sport, and subsistence fisheries. Although off the road system, two towns – Beluga populated primarily by current and former workers at a natural gas power plant and Tyonek, a native village – lie nearby. Residents in both villages are strongly opposed to the mine and initiated the opposition to it. The area is primarily wetlands, with several tributaries and streams issuing from the wetlands feeding into the Chuit River.

The idea of a coal strip mine in the Chuit River watershed, initially proposed in the 1980's, fell dormant after an EIS was written in 1990. The proposal has recently been resurrected by PacRim Coal and, although all the applications have not been submitted, is considered to be in the advanced permitting stage. The area proposed to be mined includes 20,571 acres from which 300 million tons of coal would be extracted over 25 years in the first phase of mining. Developing the infrastructure would facilitate coal mining on an additional 17,686 acres held by Beluga Coal Company (owned by Barrick Gold and the regional Native Corporation Cook Inlet Region Inc.), for a total of 60 square miles at risk.

In order to reach some of the coal seams, PacRim would need to completely remove 11 miles of one salmon-bearing stream, ripping out the underlying material to 350 feet below the streambed.

CSP<sup>2</sup> reviewed PacRim's reclamation plans, soils reports, geology reports, and water chemistry data, and spoke with remediation consultants, fisheries consultants, and agencies and concluded that the area could not be reclaimed to its pre-mining use. The substratum is primarily saturated sandstone interspersed with sand, gravel, aquifers, and up to 18 layers of coal; the water table lies at the surface in



*Chuit River, with the southern end  
of the Alaska Range in the background*

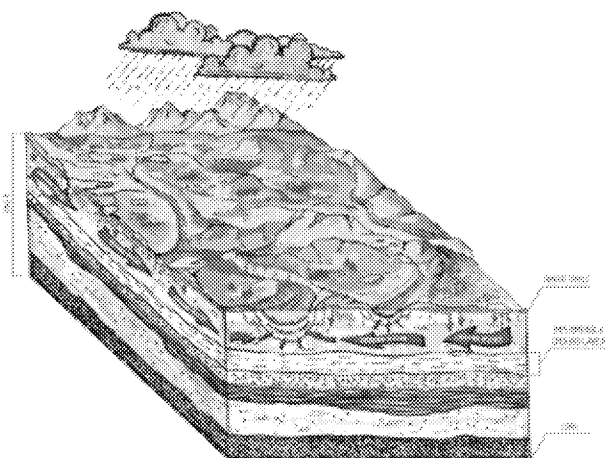
the majority of the region. In this seismically active area, weathered volcanic ash near the surface forms a clay-like material that holds water yet contains pores that allow for drainage and facilitate rooting, and a number of different vegetation types can be found. The topsoil is acidic and mining consultants concluded that it should neither be stockpiled for later use nor used as backfill unless it could be isolated from water – an impossibility in the saturated environment. Water chemistry would also change

*(Continued on page 2)*

post-mining, with likely impacts on salmon that depend on chemical sensing to return to streams.

### **Reclamation**

There is no evidence that a curvy ditch emplaced on top of a reclaimed coal mine can functionally imitate a stream. There was no evidence that a salmon stream, once removed entirely, including the stream bottom and subsurface material, could be re-created in any location, let alone in



*Hydrology BEFORE Reclamation*

a sub-arctic wetland. There was no evidence that the wetland itself, the source of the streams and of the insect prey the salmon rely on, could be re-created.

If the coal mine is permitted as it is currently proposed, it would be the first mine in Alaska to be allowed to completely destroy a salmon stream. It would certainly not be the last.

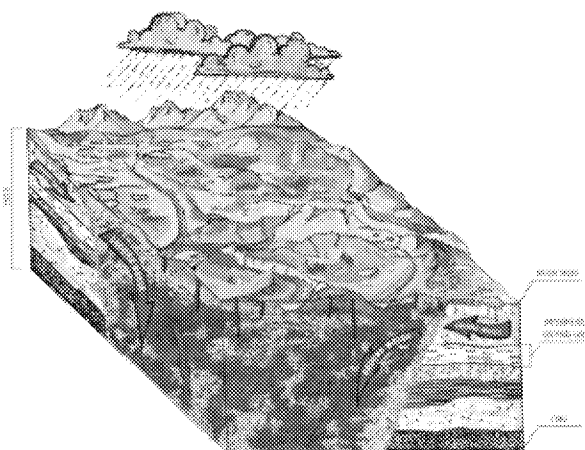
### **Coal versus Salmon?**

Alaska's coal mining laws allow people to petition to have certain lands designated as unsuitable for surface coal mining. Through this petition process, the Alaska Department of Natural Resources (DNR) Commissioner can designate lands as unsuitable for surface coal mining if he determines that reclamation is not feasible.

Because of the enormous precedent this would set in Alaska, and supported by the conclusions drawn by CSP2 and other experts, the Chuitna Citizens Coalition and Cook Inletkeeper submitted a petition to designate a buffer around the Chuit River and its tributaries

as unsuitable for surface coal mining because they could not be reclaimed. This buffer would be 150 feet on either side of the Chuit River and 100 feet on either side of its tributaries, similar buffers are used for timber harvest.

By law, the DNR had to hold at least one public hearing on the petition within one year. DNR had never actually held such a hearing before. They decided on a town hall format, and held the hearing almost one year to the day



*Hydrology AFTER Reclamation*

of the petition submission, in a location considered pro-development and a 3 hour drive from Anchorage and a plane flight away from Beluga and Tyonek. Of the 160 people or so that showed up to the hearing, over 50 gave public testimony; only one, the project manager for the coal mine, spoke against the petition. Significantly, the largest commercial fishing organization in Alaska (UFA) and representatives from four tribes (Tyonek, Kenaitze, Chickaloon, and Eyak Preservation Council) spoke in favor of the petition.

CSP2 provided a lengthy analysis of PacRim documents early on in the process, a short report specific to the Unsuitable Lands petition immediately prior to the hearing, and provided public testimony at the hearing.

It will be sixty days before DNR decides on the petition for buffer zones. This decision, on the heels of the US Supreme Court ruling in the Kensington case, could be precedent setting for Alaska waters and Alaska's wild salmon.

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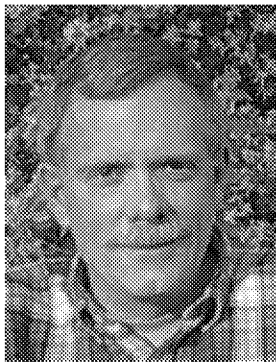
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**FROM THE EXECUTIVE DIRECTOR**

In this issue of the **Logbook** we get a glimpse of the conflict looming between coal and salmon. The salmon/coal conflict is parallel to the salmon/mining issue in Bristol Bay, where an industrial scale mine could threaten the long term viability of the world's largest salmon producing ecosystem.



*Dave Chambers is the  
Executive Director of CSP<sup>2</sup>*

The fundamental issue that is raised in these case studies - Chuitna Coal and the Pebble Mine - address the issue of the use of science in the determination of public policy. We use science to analyze site-specific risks, and to determine methods to minimize and mitigate these risks. Through environmental analysis regulatory agencies the mining industry and the interested public are learning iteratively how to do this better. But analysis also gives us a big picture look of how well this analysis/mitigation process works. This analysis tells us that, despite effort and good intention, most sulfide mines located in wet areas cause water pollution, and most attempts to create self-sustaining streams that support anadromous fish are unsuccessful. This too is scientific information, but all too typically in the zeal and determination to improve individual projects the big picture record of the risks are ignored. Focusing on the big picture is what the fight over these projects is all about.

In the last issue of the **Logbook** I mentioned that CSP2 had put considerable effort into commenting on pending EPA regulations to implement emission limits on the mercury emissions from mining facilities. Mines have been major emitters of airborne mercury for a number of years, but there has been no federal (and only one state) regulation of these emissions despite the large amount of mercury released into the air. Some mines have discharged more mercury than a coal-fired power plant.

The EPA released its mercury emission rules in December, 2010, and those of us who worked on the comment process believe EPA not only listened to what we had to say, but also made changes to the regulations based on those comments. The regulations are a major improvement that will lead to less airborne mercury contamination in the US, and worldwide, since our airborne mercury emissions travel around the globe.

We didn't get all we asked for. There are still areas in the required testing procedures that could lead to significant unmeasured emissions. We did not get the level of reporting or disclosure that we would like to have seen. It will be at least 10 years before these regulations are changed, and it will be up to new generation of environmental watchdogs to revisit these issues and make improvements.

EPA, under the Obama administration, to its credit has been aggressively pursuing environmental improvements to our air, energy and other regulations. With a new Congress we are also seeing EPA coming under significant criticism by those who believe that government regulation is causing a loss of jobs - even though it clear that government regulation did not cause the economic crisis we are currently experiencing (in fact it was in part *lack* of government regulation that brought about this crisis). We will undoubtedly see a call for less regulation and a cut in the EPA's budget, even though the activities of EPA mean that our lives and those of our children are safer, and that these regulatory activities actually lead to the development of high technology and more high-skilled jobs - but may mean that we will have to pay a few more dollars for a gold ring.

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